

## CLAIMS

What is claimed is:

1. A method for determining a dialing sequence to be appended to a telephone number, comprising the steps of:
  - 5 using a variable length prefix portion of the telephone number to access a prefix table entry that defines an action descriptor for indicating how the telephone number should be processed in a table lookup to determine a dialing sequence; and
  - 10 generating a dialing sequence based on the telephone number and prefix table entry.
2. A method as claimed in claim 1 wherein prefix portions are definable to include variable digits.
3. A method as claimed in claim 2 wherein each prefix is separated from an action descriptor by a punctuation code.
- 15 4. A method as claimed in claim 1 wherein an action descriptor includes a specification of a minimum number of digits to be dialed to trigger a dialing action.
5. A method as claimed in claim 4 further comprising in the action descriptor an indication of an elapsed time to trigger dialing.
- 20 6. A method as claimed in claim 1 wherein a prefix may include an indication of elapsed time to indicate completion of a prefix.

7. A method as claimed in claim 1 wherein an action descriptor includes an indication of a number of digits after the prefix used to determine an action.
8. A method as claimed in claim 7 wherein the action descriptor specifies one of plural ways in which digits after the prefix are used to determine an action.
- 5 9. A method as claimed in claim 8 wherein the digits after the prefix address a table which identifies a dialing action.
10. A method as claimed in claim 9 wherein the action descriptor further includes a table identifier.
- 10 11. A method as claimed in claim 8 wherein the digits after the prefix may be matched with an entry in a table to identify a dialing action.
12. A method as claimed in claim 11 wherein the action descriptor further includes a table identifier.
13. A method as claimed in claim 8 wherein the action descriptor further includes a table identifier.
- 15 14. A method as claimed in claim 8 wherein an action descriptor includes an indication of a number of digits after the prefix used to determine an action.
15. A method as claimed in claim 7 wherein an action descriptor includes a specification of the number of digits to be dialed to trigger a dialing action.

16. A method as claimed in claim 1 wherein a portion of the telephone number identifies an entry in a pointer table, the entry in the pointer table pointing to a long distance table entry with dialing details.
17. A method as claimed in claim 16 wherein an entry in the long distance table includes a predial code to determine from additional digits of the telephone number whether the dialing sequence of the long distance table is used or the telephone number is passed through.
18. A method as claimed in claim 17 wherein the predial code causes an extension of the telephone number to address a predial table.
19. A method as claimed in claim 16 wherein a dialing sequence included in the long distance table is prepended to a portion of the telephone number.
20. A method as claimed in claim 1 wherein an extension of the telephone number is applied to a table to determine a dialing action.
21. A method as claimed in claim 20 wherein the extension determines whether the original telephone number is passed through.
22. A method for determining a long distance carrier code to be coupled to a dialed telephone number, as described in claim 1, further comprising the steps of:
- retrieving information from the prefix table entry that indicates a number of digits of the dialed telephone number to be used to search a long distance pointer table;
  - retrieving a starting location of a long distance pointer table from the prefix table entry;

searching the long distance pointer table to determine a pointer to a long distance carrier; and

accessing a long distance carrier code from a long distance table using the long distance carrier pointer.

- 5 23. A method as claimed in claim 1 further comprising reprogramming tables which define the prefix table entries and action descriptors.
24. A method as claimed in claim 23 wherein the tables are reprogrammed through DTMF signals from a remote computer.
25. A method as claimed in claim 23 wherein the tables are reprogrammed through a  
10 modem connection to a remote computer.
26. A telephone dialer comprising:  
a prefix table that associates an action descriptor with a variable length prefix portion, the action descriptor indicating how a telephone number should be processed in a table lookup to determine a dialing sequence; and  
15 a dialing sequence generator which generates a dialing sequence based on the telephone number and an entry in the prefix table.
27. A telephone dialer as claimed in claim 26 wherein prefix portions are definable to include variable digits.
28. A telephone dialer as claimed in claim 26 wherein each prefix is separated from  
20 an action descriptor by a punctuation code.
29. A telephone dialer as claimed in claim 26 wherein an action descriptor includes a specification of the number of digits to be dialed to trigger a dialing action.

30. A telephone dialer as claimed in claim 29 further comprising in the action descriptor an indication of an elapsed time to trigger dialing.
31. A telephone dialer as claimed in claim 26 wherein a prefix may include an indication of elapsed time to indicate completion of a prefix.
- 5 32. A telephone dialer as claimed in claim 26 wherein an action descriptor includes an indication of a number of digits after the prefix used to determine an action.
33. A telephone dialer as claimed in claim 32 wherein the action descriptor specifies one of plural ways in which digits after the prefix are used to determine an action.
- 10 34. A telephone dialer as claimed in claim 33 wherein the digits after the prefix address a table which identifies a dialing action.
35. A telephone dialer as claimed in claim 34 wherein the action descriptor further includes a table identifier.
36. A telephone dialer as claimed in claim 33 wherein the digits after the prefix may  
15 be matched with an entry in a table to identify a dialing action.
37. A telephone dialer as claimed in claim 36 wherein the action descriptor further includes a table identifier.
38. A telephone dialer as claimed in claim 33 wherein the action descriptor further includes a table identifier.

39. A telephone dialer as claimed in claim 33 wherein an action descriptor includes an indication of a number of digits after the prefix used to determine an action.
40. A telephone dialer as claimed in claim 32 wherein an action descriptor includes a specification of the number of digits to be dialed to trigger a dialing action.
- 5 41. A telephone dialer as claimed in claim 26 wherein a portion of the telephone number identifies an entry in a pointer table, the entry in the pointer table pointing to a long distance table entry with dialing details.
42. A telephone dialer as claimed in claim 41 wherein an entry in the long distance table includes a predial code to determine from additional digits of the telephone number whether the dialing sequence of the long distance table is used or the telephone number is passed through.
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43. A telephone dialer as claimed in claim 42 wherein the predial code causes an extension of the telephone number to address a predial table.
44. A telephone dialer as claimed in claim 41 wherein a dialing sequence included in the long distance table is prepended to a portion of the telephone number.
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~~44.~~ A telephone dialer as claimed in claim 26 wherein an extension of the telephone number is applied to a table to determine whether the original telephone number is passed through.
46. A telephone dialer as claimed in claim 26 further comprising:
- 20 a long distance pointer table, the prefix table entry indicating a number of digits of the dialed telephone number to be used to search the long distance

pointer table and including a starting address of the long distance pointer table;  
and

a long distance table having long distance carrier code entries, the long  
distance pointer table entries including pointers to the long distance table.

5 47. A telephone dialer as claimed in claim 26 wherein the tables are programmable  
to define the prefix table entries and action descriptors.

48. A telephone dialer as claimed in claim 47 wherein the tables are reprogrammed  
through DTMF signals from a remote computer.

10 49. A telephone dialer as claimed in claim 47 wherein the tables are reprogrammed  
through a modem connection to a remote computer.

50. A telephone dialer for determining a dialing sequence to a telephone number  
comprising:

15 prefix table means for receiving a variable length prefix portion of a  
telephone number and defining an action descriptor for indicating how the  
telephone number should be processed in a table lookup to determine the dialing  
sequence; and

dialing sequence generating means for dialing a sequence based on the  
telephone number and the prefix table entry.